

Oxidation Catalysts and Wet FGD Capture of Mercury

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Low-temperature Oxidation Catalysts

◆ Market Niche:

- Western coal/lignite
- Plants with HESP or CS-ESP and WFGD
- Existing sales of high-value fly ash
- Commitment to environmental stewardship

◆ Performance/Cost Trade-offs:

- Catalyst volume/pitch/velocity
 - » Installed cost
 - » Hg oxidation percentage
 - » Pressure drop
 - » Fly ash buildup

Oxidation Catalysts – Cost/Performance Issues

- ◆ Increasing cost of gold
- ◆ Ability to use lower cost active ingredients
 - Different substrates
 - Pd at lower loadings
 - Carbon-based monoliths
- ◆ Most cost effective regeneration schemes?
- ◆ Ultimate catalyst life?



FGD Capture of Mercury

- ◆ R&D funded by NETL, EPRI, private sector has greatly advanced the state of the art
- ◆ Much more remains to be learned before problem is solved
- ◆ Analogy to FGD performance/reliability optimization in the 1980s
 - \$millions in private sector R&D

